



US005385606A

United States Patent [19]

[11] Patent Number: **5,385,606**

Kowanko

[45] Date of Patent: **Jan. 31, 1995**

[54] **ADHESIVE COMPOSITION AND METHOD**

[76] Inventor: **Nicholas Kowanko**, 618 S. Fifth St., Moorhead, Minn. 56560

[21] Appl. No.: **34,184**

[22] Filed: **Mar. 22, 1993**

Related U.S. Application Data

[63] Continuation of Ser. No. 908,474, Jul. 6, 1992, abandoned.

[51] Int. Cl.⁶ **C08L 89/00; C08H 1/02**

[52] U.S. Cl. **106/124; 106/125; 527/205**

[58] Field of Search **106/125, 124; 527/205; 530/829, 830, 380; 524/17, 18, 9, 10, 354, 541; 602/50, 904; 604/307; 606/154, 153; 424/443, 444, 43; 514/2**

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,241,868	5/1941	Reimann	530/382
2,492,458	12/1949	Bering, Jr.	424/443
2,597,228	5/1952	Cornwell	530/380
3,395,106	7/1968	Curtis	527/205
4,362,567	12/1982	Schwartz	106/157
4,414,976	11/1983	Schwarz et al.	106/161
4,427,650	1/1984	Stroetmann	424/46
4,427,651	1/1984	Stroetmann	424/46
4,626,310	12/1986	Riter	156/307.3
4,627,879	12/1986	Rose	106/124
4,650,678	3/1987	Fuhge	424/101
4,740,534	4/1988	Takehisa	523/118
4,813,958	3/1989	Dixon	623/11
4,816,251	3/1989	Seelich	424/101
4,818,291	4/1989	Iwatsuki	106/124
4,983,392	1/1991	Robinson	424/427
5,099,003	3/1992	Kotitschke et al.	530/382

FOREIGN PATENT DOCUMENTS

251126	9/1912	Germany
3230849A1	2/1989	Germany
57-149229	9/1982	Japan
741878	6/1990	U.S.S.R.

OTHER PUBLICATIONS

Braunwald et al. "Evaluation of crosslinked gelatin as a

tissue adhesive and lenstatic agent: An experimental study". Surgery—Jun 1966, pp. 1024-1030.

Rose "Gelatin" Encyclopedia of Polymer Science and Engineering, pp. 488-513, 1987 (month unavailable). Encyclopedia of Polymer Science and Engineering, vol. 1, pp. 547-577, USA, John Wiley and Sons 1985, "Adhesive Compositions" Temin et al. (month of publication unavailable).

Brothers, M. F., Kaufmann, J. C., Fox, A. J., Deveikis, J. P.: "n-Butyl 2-cyanoacrylate-substitute for IBCA in interventional neuroradiology: histopathologic and polymerization time studies." *Ajnr-American Journal of Neuroradiology* 10(4) (Jul.-Aug. 1989), Abstract.

Jebara, V. A., Fabiani, J. N., Couetil, J. P., Acar, C., Dreyfus, G. Delouche, A., Carpentier, A.: "Exclusive use of surgical glue without graft replacement for type A aortic dissection: A new technique." *European Heart Journal* (1989)

Beloglazova, S. E.: "Cyanoacrylate glues and their use in gynecology [Rus]". *Akusherstvo I Ginekologiya—Moskva* (5) (May 1988), Abstract.

Byrne, D. J., Hardy, J., Wood, R. A., McIntosh, R., Cuschieri, A.: "Effect of fibrin glues on the mechanical properties of healing wounds." *British Journal of Surgery* 78(7) (Jul. 1991), Abstract.

Laitakari, K., Luotonen, J.: "Autologous and homologous fibrinogen sealants: adhesive strength." *Laryngoscope* 99(9) (Sep. 1989), pp. 974-976.

Beltramello, A., Benati, A., Perini, S., Maschio, A.: "Interventional angiography in neuropediatrics." *Childs Nervous System* 5(2) (Apr. 1989), Abstract.

Gigauri, V. S., Movchun, A. A., Got'e, S. V., Shermet'eva, G. F., Shidkov, I. L.: "Use of fibrin glue in

(List continued on next page.)

Primary Examiner—John Kight, III
Assistant Examiner—Jeffrey Culpeper Mullis
Attorney, Agent, or Firm—Fredrikson & Byron
[57] **ABSTRACT**

An adhesive composition, primarily intended as a tissue adhesive, comprised of cross-linked proteinaceous material, and methods for its use.

19 Claims, No Drawings